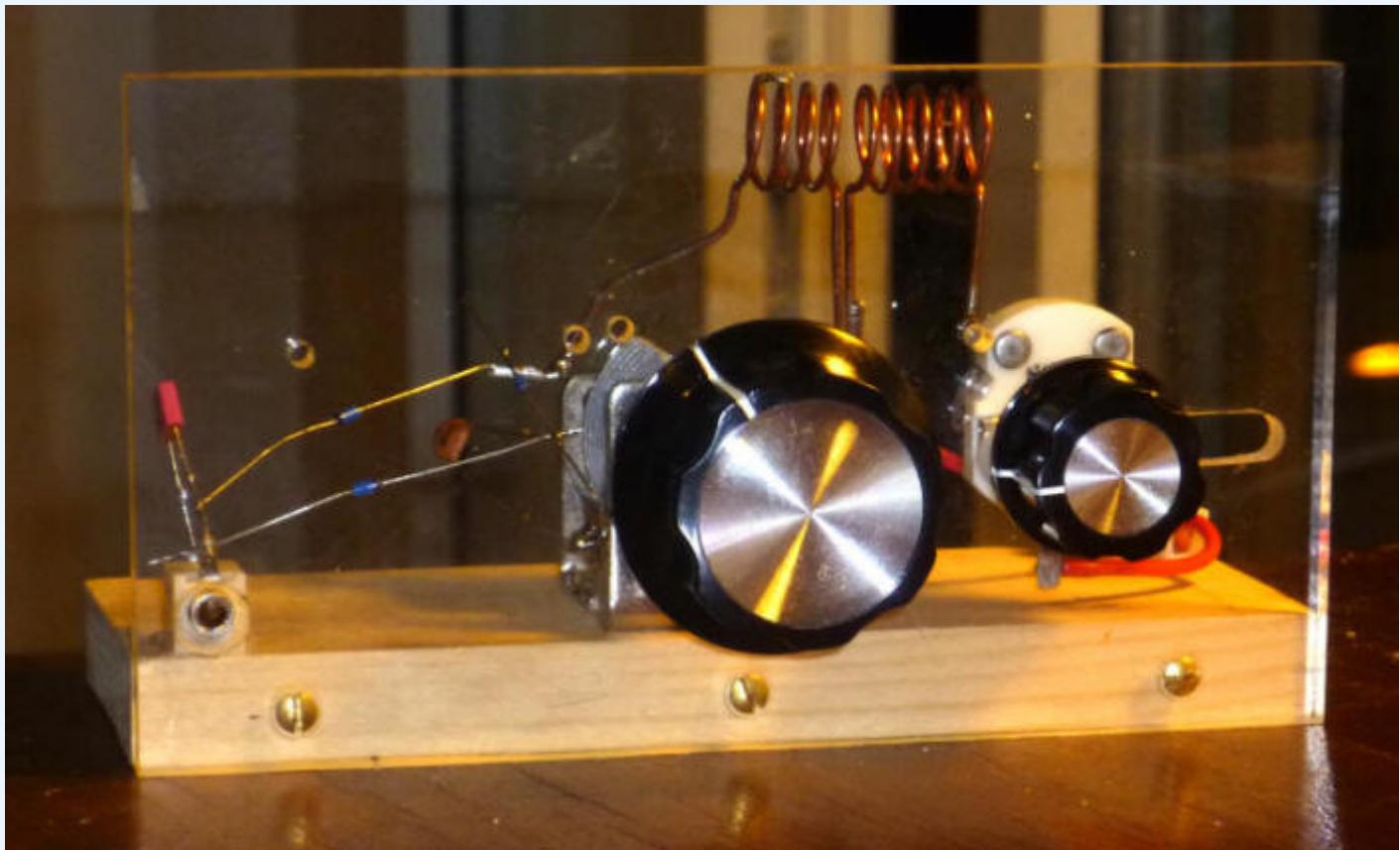


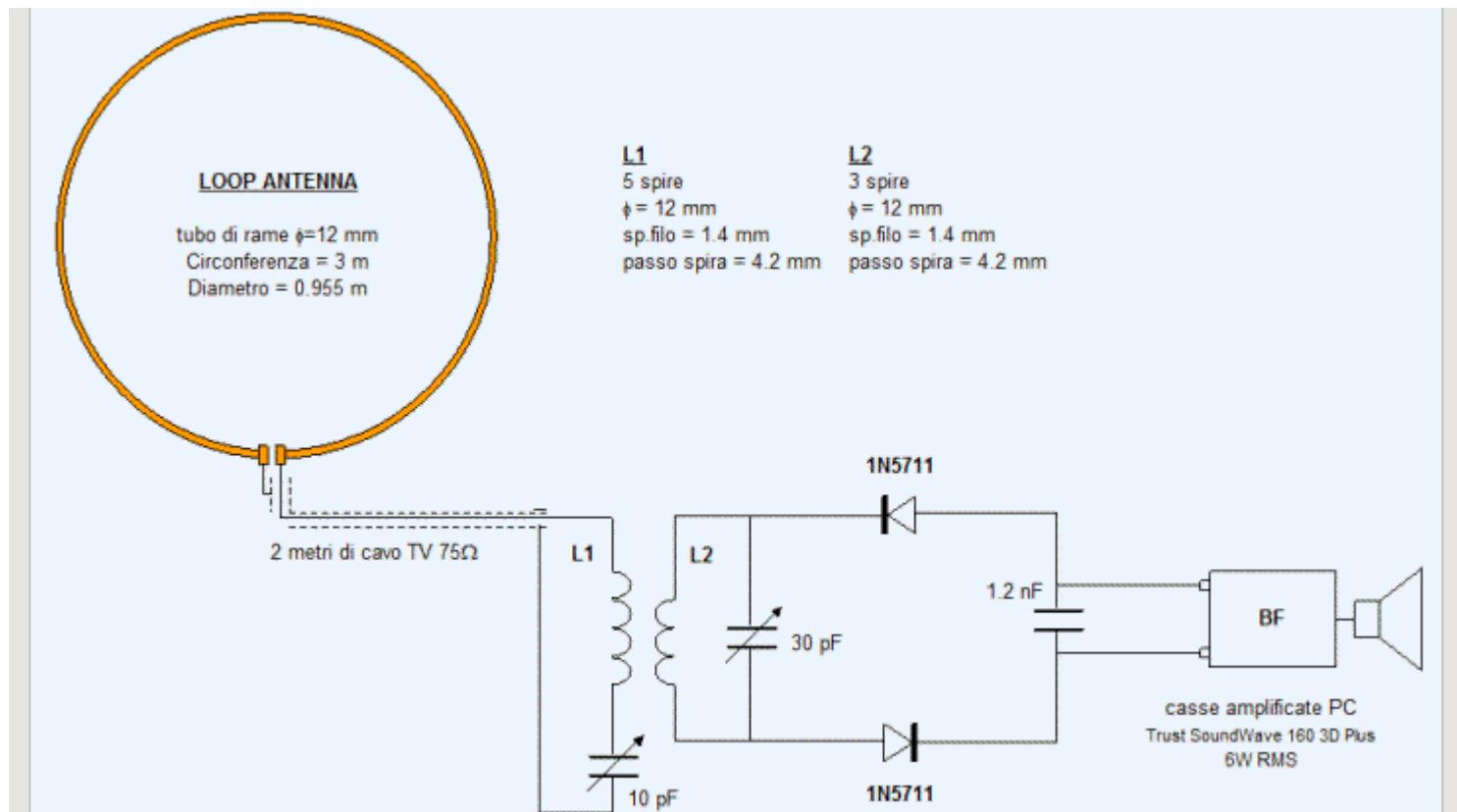
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# Crystal receiver for FM

A project by [Giacomo Cavuoti](#)



Following Leonardo's invitation I made this simple crystal receiver for FM (click on the diagram below to see it enlarged).

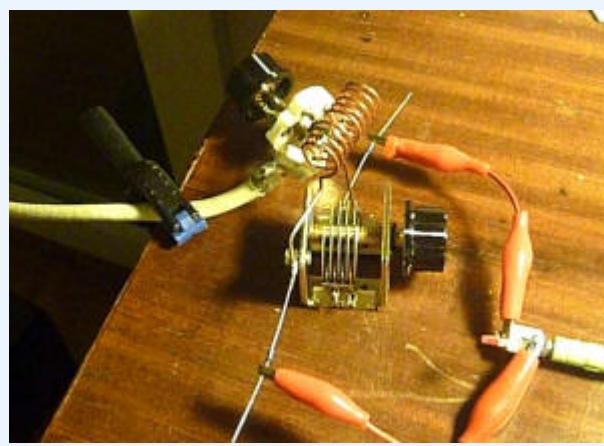
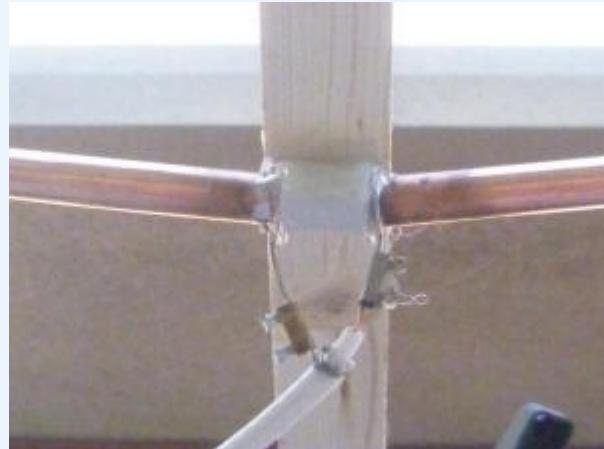
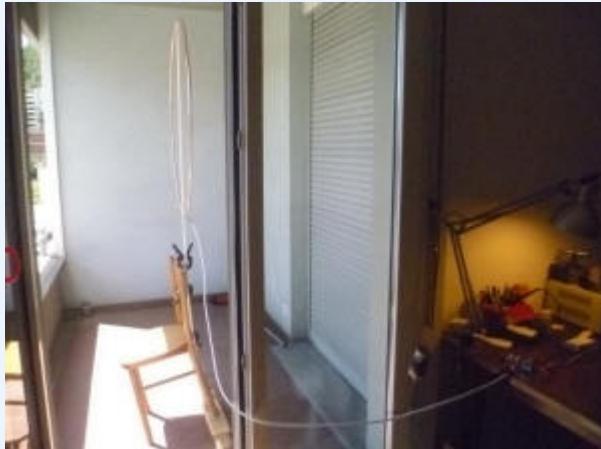


The receiver is "powered" by a full wave loop antenna consisting of a single circular coil made of 3 meters of copper pipe for hydraulic systems (measured inductance of about 3 uH). The support is a simple 2-meter long fir-wood strip, 3 cm wide and 1 cm thick, to which the copper rim has been fixed with insulating tape. Another solution to realize the loop antenna in a simple and instantaneous way is to use an aluminum strip 2 mm thick and 2 cm wide. The detectors are two *Schottky* diodes type 1N5711, particularly suitable for VHF thanks to the low capacity (about 2pF). They are currently in production and therefore easy to find. The receiver was tested in a "stiff" situation with the antenna exposed in a recessed balcony (3 x 1.6 meters) on the fourth floor of a 6-storey reinforced concrete building surrounded by other buildings constructed of reinforced concrete walls. As you can see and hear from the two videos I uploaded on Youtube:

<http://www.youtube.com/watch?v=YNiuRoIp36E>

[http://www.youtube.com/watch?v=SJwx8\\_3mCfI](http://www.youtube.com/watch?v=SJwx8_3mCfI)

the reception is good as well as the selectivity, thanks to the appropriate coupling, but very easy to find, between the antenna coil L1 and that of L2 tuning. The audio amplification has been entrusted to two small speakers amplified by PC. The following photos show the first working prototype mounted "in the air" (click on the images to see them better). The photo below the title instead shows an aesthetically more accurate realization.



For any clarification, do not hesitate to contact me. [Giacomo Cavuoti](#)

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